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UNIVERSITY MICROFILMS
EUGENE B POWER
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Farmers' Production Debt Rises at Slower Pace

THE POSTWAR expansion which has inflated farmers' short-term debts more than 2½ times now shows signs of ending. Such debts (not including price-support loans) owed to insured commercial banks and the federally sponsored lending agencies increased only 4 percent during 1952 compared with increases of 19 percent and 21 percent during 1950 and 1951. These are borrowings used mainly to buy machinery, livestock, fertilizer and other production goods.

The changed livestock situation has been the dominant force in the recent credit picture. In the Midwest, cattle feeders used less credit for operations because of the drop in prices paid for livestock. Short-term debt of farmers actually declined during 1952 in Illinois, Iowa, South Dakota, Nebraska, and Kansas. In the range areas the heavy marketings of cattle have curbed the credit expansion. In the West South Central, Mountain, and Pacific regions, where ranching is important, short-term loans of banks and the federally sponsored lenders increased only 5 percent, 7 percent, and 5 percent, respectively, during 1952. In 1951 loans rose 21 percent, 29 percent, and 36 percent respectively. An additional factor, stemming from the decline in livestock income, has been a more cautious attitude toward credit by both borrowers and lenders.

In a few regions farmers' short-term debts expanded more in 1952 than in 1951—South Atlantic, East South Central, and the Northeast. Some delay in the repayment of 1952 production loans because of losses from drought may have partly caused the debt build-up at the end of the year in some instances. In the South, an important reason is the diversification in farming which has involved large expenditures for such items as livestock and pasture improvement. In the Northeast, factors causing further credit expansion have been high production costs and a relatively favorable outlook for dairy farming in that area.

Are We Tightening Our Debt Belts?

EACH YEAR farmers use a large amount of short-term credit. This credit, usually not secured by a lien on the real estate, is largely repaid within 1 year, although some runs for a longer period. Farmers' short-term debts increased from 2.9 billion dollars on January 1, 1946 to about 7.6 billion dollars on January 1, 1953.

These last few years farm production costs have jumped and labor has been scarce. This has encouraged farmers to do more and more of their work with labor-saving machines and to spend more money for fertilizer, farm improvements, and other things that make for larger output per man-hour of labor. All this requires money. With incomes favorable, farmers haven't hesitated to borrow to supply their needs. Many have found it necessary to increase their short-term debt. The total short-term debt for the country as a whole has increased until it is now higher than the farm mortgage debt.

There are signs, however, that the upward trend has been halted. Mr. Jones' article points out that short-term debts didn't increase as much last year as in recent years and suggests that farmers may be tightening their debt belts.

Notwithstanding recent large increases in a few areas, the forces tending to reduce short-term debts are strong. During 1953 such debt will probably level off or decline slightly.

New loans made by production credit associations in the first 2 months of 1953 were less than during the corresponding months of 1952. Fewer loans were made and the average size decreased slightly. In only the three FCA districts in the eastern part of the country have PCA's made more loans so far in 1953 than in 1952.

The outlook points to a lower farm income, in general, than in recent years and many farmers and ranchers are more careful in assuming the risks of debt. The well-equipped condition of many farms, also, is making the use of short-term credit less necessary in some instances.

Lawrence A. Jones
Bureau of Agricultural Economics

Volume Per Store, Big Factor In Cost of Retailing Meat

Marketing Study Throws Light on Possible Savings

CATTLE PRICES and retail beef prices have dropped sharply since last year, but marketing margins of retailing beef have remained about the same or in some cases have increased.

Why is this true?

The reason is that retail meat margins have no direct connection with the level of either livestock prices or retail prices. Retail meat margins are primarily related to the costs of performing the various retailing services demanded by consumers; and these costs do not change as fast as do the prices of commodities. Such cost factors as labor and rent, which make up the greatest proportion of operating costs, are relatively fixed over short periods.

Historically, retailers have taken about half of the total farm-to-consumer margin for marketing meats and meat products . . . the other half going to livestock marketing agencies, to processors, to wholesalers, and for freight charges. In 1947, about 16.2 cents of the consumer's meat dollar, or about 9 cents for each pound of meat sold, went to pay the costs of retail distribution.

In an effort to obtain the basic information needed in tackling the problem of lowering the costs of retailing meat and thus helping to increase the efficiency of retail distribution of meat, Edmund Farstad and V. John Brensike of the Bureau of Agricultural Economics made a study in 1950 of retail meat operations in Harrisburg, Pa., Bridgeport, Conn., and Topeka, Kans. The research was conducted under authority of the Agricultural Marketing Act of 1946 (RMA, Title II).

About Three-Fourths of Cost for Labor and Rent

Several things stand out as a result of this study.

For instance, the average cost of retailing meat differs only slightly be-

tween cities of similar size, as these three were. But it varies considerably among the stores of each city. Compared with a city like Chicago, the costs were lower in the smaller cities.

Labor is the chief item of cost in running a meat department. Wages and salaries, including costs of family labor, amounted to about 65 to 70 percent of total operating costs. The "know how" involved in boning, cutting, and displaying meats must be paid for. The large wholesale cuts of meat must be converted into smaller cuts suitable for the retail trade. This involves cutting and trimming operations, and the processing of some cuts into sausage and ground meats. The skills required for processing and merchandising a highly perishable product command high wages.

Rent ranged from about 5 percent of the total operating costs in Harrisburg to about 14 percent in Bridgeport, where most of the stores studied are in the heart of the retail district reflecting higher rental rates. It was the second most important operating cost.

Payments for light, heat, and power; license and insurance, depreciation of equipment; containers and wrapping materials; maintenance; advertising; and miscellaneous varied from 22 percent of the total operating cost in Bridgeport to about 30 percent in Harrisburg.

Costs of retailing a pound of meat vary in proportion to the total quantity of meat handled by individual stores. Meat departments handling less than 1,000 pounds of meat a month (at wholesale weights) had high operating costs—from 20 to 25 cents a pound. But those handling more than 4,000 pounds a month had operating costs of only 8 or 9 cents a pound.

If the stores handling relatively low volumes of meat—particularly those handling less than 1,000 pounds of meat a month—could possibly increase the volume of meats handled, their costs of operation per pound of meat sold could be reduced substantially.

Why is this so?

The chief reason is that labor is used more efficiently in larger stores. Stores in the three cities handling less than 1,000 pounds of meat per month, handled only about 6 pounds of meat per man-hour as compared to 21 pounds for stores handling over 4,000 pounds of meat a month. Most of the smaller meat departments are family operated stores and the returns to family labor in these stores were often less than the prevailing wages for meat cutters, wrappers, and other workers.

Another factor is that the amount of equipment needed to retail any quantity of fresh meats is relatively high as compared to retailing other food items. This is so because of the perishability of the product and the amount of processing required. For instance, stores handling more than 4,000 pounds of meat a month utilized their refrigerated cases for display and storage much more efficiently than lower volume stores—over 500 pounds of meat per linear foot of display case per month as compared to about 80 pounds for stores handling 1,000 pounds or less per month.

Cutting Costs in Stores Having Several Departments

Many of the relatively low-volume stores are able to remain in a highly competitive industry because operators are inclined to consider returns from total store operations rather than returns from meat departments only. Such retailers tend to consider only "out-of-pocket" expenses in their operations. Meats are handled largely as convenient items in addition to groceries and produce, in order to utilize available family labor, building, and equipment, and to maintain a complete line of foods.

Retailers cannot base their decisions solely on the costs of operating the meat department. Most retailers believe that in order to handle groceries and produce successfully, it is necessary to retail meats as well. For that reason, many small-volume operators may find that while the meat department may not be profitable in itself, the overall net returns from the sale of groceries, produce, and meats may be greater than overall net returns if meats were not handled.

A knowledge of what it costs to retail a pound of meat will help retailers to make better decisions as to store operations. Fairly accurate estimates of cost can be made without keeping records by departments, which is time-consuming. As labor and rent represent roughly three-fourths of the total operating costs, allocation of remaining costs to the meat department on the basis of sales gives the approximate cost of operating that department.

These costs must be considered in connection with the quantity of meat handled. A summary of the number of pounds bought at wholesale, which may be obtained from invoices, is adequate and the keeping of detailed records is avoided.

With these costs in mind, a retailer can analyze his operations and decide to what extent his meat department increases or decreases total returns from his entire operation regardless of the volume handled.

It may be that certain small operators will find that the handling of meat reduces total returns. Other store operators may find that they must handle meat even though they do not receive a very high return for family labor. Still others may find that handling of precut meat or prepackaged frozen cuts will tend to increase their total returns from the entire store operation.

Esther M. Colvin
Bureau of Agricultural Economics

A Letter to Crop & Livestock Reporters

ALL for the want of a horseshoe nail. Do you remember that quote from George Herbert who wrote in 1640? "For want of a nail a shoe was lost, for want of a shoe a horse was lost, for want of a horse the rider was lost." Then Ben Franklin in Poor Richard's Almanac, in 1757, prefixed a line to this effect, that *A little neglect may breed mischief*. I guess if he were philosophizing today he would use a *fuel jet*, or maybe the *breaker point* on your tractor. Do you ever stop and think how important are the little things in so many of our day-to-day operations?

That's the way it is with our job of trying to keep farmers and the Nation advised on crop and livestock production, farm prices, farm labor, etc. One schedule may seem like a very insignificant thing to a lot of people, but it's just like Herbert's horseshoe nail, or your breaker point or fuel jet.

You may say "So what? We might have just one less report." But it isn't quite that simple.

I haven't talked about farm prices for some time, so let's take a price report as an example. Under the law, it is the prices reported to us each month that determine the parity level. They also tell us the final effect of production on the level of income of farmers. This report guides many policy decisions that affect every farmer and rancher in the Nation. I mean it really goes right back to the old pocketbook. After all the work of producing, harvesting, transporting to market, and all the rest—it's the price that finally tells the story. What you got for your produce this year has a lot to do with what you'll do, or can do, next year.

So, if the number of schedules returned to us are few and our report is

not accurate, or if no report be made, everybody is affected. I know this may be difficult to see sometimes, but it's a fact. So many times most of us take a lot of things for granted . . . we don't actually realize what would happen if certain essential services were no longer provided. Nor do we realize what it really takes to make them possible.

The best current illustration I can think of is the plight of a group of producers, who have visited us lately, who don't have the reporting services that many others have. They are very much upset about a number of problems they are having in trying to plan their production to fit in with the needs of the market and also developing more demand for their product. You may have guessed it, it's the turkey growers. This is as intelligent a bunch as you could ask for, but the thing I believe all of you will be most interested in is their approach to the solution of their problem. The very first thing they say they need is a series of reports on production *in sufficient detail* to enable them to predict the probable supplies that will be available at given times. They assured us that they would help in getting producers to provide reports so the whole industry would be able to do a better job of planning production and marketing.

This is a good example of how a present-day group of farmers feel who have not had the advantages of a reporting service and *really know* they need it in order to help themselves to solve their difficulties. It is exactly the same situation that existed about 100 years ago when farmers got together and set up this crop and livestock reporting system that so many people now just take for granted.

Your individual report—"the horseshoe nail"—is what makes this service possible. It only takes a few minutes and your answers are just between you and me and your State Statistician, and he's a pretty good egg, honestly.

Sincerely yours,

S. R. Newell, Chairman
Crop Reporting Board, BAE

Agricultural Uses of Federal Land

MANY OF YOU who live in the West know what our Federal lands are like and how they are used . . . for most of these lands are in the Western States. But there are a great many people, particularly in the East, who want to know what this land is like and how farmers and ranchers go about getting the use of it.

Without major reclamation or land development, our Federal rural land is for the most part unsuited to farm crops. Only about 1 percent of it is now used for general farming . . . a little over 4 million acres of the nearly 456-million total. Agriculture does have a stake in it, however, and a considerable one. Over half of our vast Federal acreage is used by farmers and ranchers primarily for grazing, and roughly a third is used primarily for growing timber.

It is about the grazing that we are mainly concerned in this article. So, let us look first at the grazing land.

The first thing you will notice is that the Federal range is of relatively low quality . . . land of low-carrying capacity. An acre of improved pasture in the humid East or of improved irrigated pasture in the West furnishes grazing for 1 or 2 or more cows. But on this Federal land many acres per cow are needed. Much of it can be grazed over only once or twice in the short season it can be used; and, on the average, it takes about 8 acres of Federal range to provide a month's grazing for a cow. Even if the cattle could be moved from one Federal range to another for continuous grazing, nearly a hundred acres of it would be required to supply year-long forage for a cow.

More than 95 percent of the Federal range is located in semiarid, mountain, and desert areas of the West where forage production is light. It is land passed over by prospective farmers as unfit for farming during the many years when public lands were open for homesteading.

Second in the Series

IN THE MARCH *Agricultural Situation* we learned that the Federal Government owns or controls about a fourth of our total land area, that it is land of relatively low quality and that much of it is used as park and recreational areas, military reservations, watershed protection, and for other public purposes. In this issue the same author tells us something of its use for agriculture. Fuller details, including acreage by States, will be found in *Federal and State Rural Lands*, Circular 909, U. S. Department of Agriculture, Bureau of Agricultural Economics.

You can see from the chart what an enormous slice of Federal land is used primarily for grazing. Some 230 million acres is set aside almost solely for this purpose. Then, in addition, cattle are allowed to graze in parts of the areas kept mainly for growing timber, and to some extent in the park areas, military reservations, and the other special-use areas. In 1949 grazing was a *secondary* use on 75 million acres. This was in addition to the 230 million and brought the total used for grazing to 305 million acres.

Some Acreage Not Grazed

Federal land suitable for grazing but not used in 1949 totaled about 20 million acres. Half of this was not offered for grazing. To have let the cattle in would have interfered with the primary uses for which the land is held such as military, wildlife, and recreational activities. A few areas were closed to grazing only temporarily . . . for cutting timber, range and timber reseeded, and for protection of the range until fences could be built, watering places provided, and until other needed physical improvements could be made. The other 10 million acres, of the 20 million, were offered to farmers and ranchers for grazing, but for various reasons were not wanted . . . for lack of water, the presence of poisonous plants, or because the acreage offered was located in remote or inaccessible areas. Some was not wanted because of necessary limitations as to use.

Though the carrying capacity per

acre is low, the acreage is large and farmers and ranchers who live in reach of it, find this Federal grazing land highly important in their cattle-producing operations.

Farmers and ranchers in or near the Federal range areas use their privately owned (or privately leased) land to produce winter feed, and as a base of operations; and, having satisfied the Government that they have such a base from which to work, the Government sells them grazing privileges . . . *leases* or *permits* to use the Federal range. Preference is given to ranchers who are already established in the area; and, in order to prevent overgrazing, "permits" generally allow only a limited number of animals. Often the permits provide grazing only for specified months.

Most of the present grazing capacity has been taken up by established ranchers and there is little opportunity for newcomers to procure grazing. Some prospective ranchers, however, are able to buy or lease a ranch from one of the established ranchers and make arrangements to have the grazing privileges on Federal ranges transferred along with the ranch.

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Conditions vary somewhat in the different ranching communities and a prospective rancher living in or near the area usually would have the better chance to acquire a ranch, when one is offered for lease or sale. Full details about grazing permits can be obtained from the Bureau of Land Management, Department of the Interior, and from the Forest Service, United States Department of Agriculture, both Washington 25, D. C. Prospective ranchers may also get helpful suggestions pertaining to any particular State by writing to the State Agricultural Extension Director at the College of Agriculture for that State.

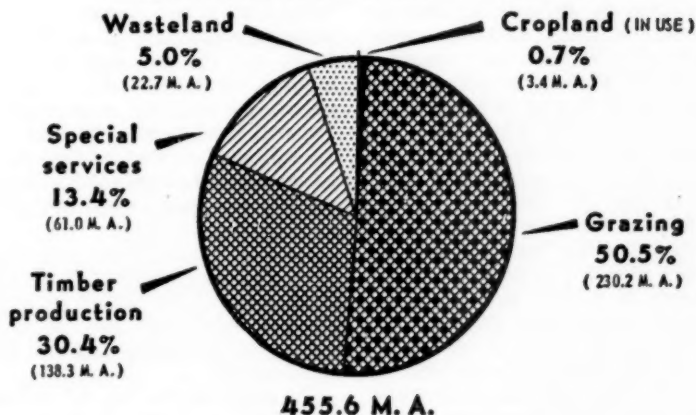
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Furnishes Big Part of Roughage— About Half in Some States

The total forage supplied by the Federal land amounts to nearly 5 percent of the year-long roughage needs for all United States forage-consuming livestock. In 1949, the Federal range supplied about 38 million animal-unit months of grazing. Nearly one-eighth of the forage-consuming livestock in the country were grazed on Federal range during a part of the year. If used entirely for grazing cattle, the forage supplied by the Federal range would be enough to produce about a billion pounds of cattle each year.

PRIMARY USES OF FEDERAL RURAL LAND

Continental United States, 1949



M. A. = MILLION ACRES

In the Mountain States in 1949, the Federal range supplied about a fourth of the total forage required for year-long maintenance of all the livestock on farms in these States. In Arizona, it supplied about half, and in Nevada and Utah over 40 percent of the total forage requirements.

The Forest Service and the Soil Conservation Service in the Department of Agriculture set limits on the number of livestock any one operator may graze on land under their jurisdiction. The purpose is to prevent undue concentration of grazing preferences in the hands of large operators. Effort is made, however, to provide security of tenure to preference holders. It is sometimes necessary, of course—especially on land where grazing is a secondary use—to restrict grazing in order to prevent interference with the primary uses.

In 1949, there were 69,259 authorized users of Federal range, exclusive of Indian land. Data are incomplete on the Indian land, but it is estimated that 15,000 to 20,000 non-Indians had leases on Indian land, including trust allotted tracts. There also were several thousand operators who used Federal range under free-use arrangements.

The rents and grazing fees for Federal range vary greatly because of the numerous factors that affect the grazing of separate allotments. In 1949, revenues from the Federal range totaled a little over 8 million dollars. This amounted to an average of 2.8 cents per acre of range and 22.4 cents per animal-unit month of grazing. Rents on the land leased on an acreage basis varied from less than a cent per acre to as much as \$5 or \$6 per acre for a few small areas of improved grassland leased out under competitive bids. The grazing fees for land used under permits varied from 8 cents per animal-unit month in Taylor Grazing Districts to 11 cents a month per head for sheep and 49 cents a month per head for cattle grazed in national forests.

Attention has been given in many research studies and experiments to reseeding . . . in order to improve the feeding capacity of these grazing lands. It has been estimated that more than 600 million acres of *private and public* western range land (including Federal

land) need improvements, and that nearly 400 million acres of this land need major restoration. In the National forests, an estimated 4 million acres of range land could be reseeded successfully at reasonable cost, in addition to the 270,000 acres already reseeded. And land administered by the Bureau of Land Management includes at least 22 million acres in need of reseeding and brush removal. Most of the land administered by the Soil Conservation Service (roughly 7 million acres) has been reseeded to grass and is now used for grazing.

4 Million Acres in Crops

Now, a word about the Federal acreage used for crops. When you stop to consider that our public lands were open to homesteading for many years, and that any tracts better suited for farming than for other uses could generally be taken up by private citizens, it is easy to see how little farming land is left in the vast Government-owned acreage.

Farming was the *primary* use for only 3.4 million acres of the Federal land in 1949. Farming was a *secondary* use for almost another million acres in Federal areas that were kept mainly for other uses. So, the total Federal land farmed was about 4.3 million acres. It should be pointed out, however, that most of this land used for farming is Indian land . . . about 3 million acres of it . . . which is essentially private property. It is land held in trust for the use and benefit of the Indians, and most of it is used by Indians. Most of the remaining acres of Federal land farmed in 1949 . . . about 1.3 million . . . was land in the process of being sold to private owners. Some of this was surplus military land being sold back to farmers. Some of it was foreclosed farm land being resold by the Farmers Home Administration. And some was irrigated land being developed and sold by the Bureau of Reclamation and by the Soil Conservation Service.

In addition to the 4.3 million acres in farms in 1949, there was another 3.2 million acres found suitable for farming, bringing the total farming

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Irrigation's Part in Farm Production

IRRIGATION plays no small part in the Nation's total output of crops.

About one-eighth of all crop production in the United States depends totally or in part on irrigation. This is not to say that without any irrigation in this country our crop output would necessarily be one-eighth less than it is now. Some production could be obtained by dry farming much of the land now irrigated. Except in the more arid areas of the West some production could be obtained from the land. Although in the vast arid and semiarid expanses of the West only very sparse arable cropping could be undertaken, and even that would not be dependable, year after year, as is the present irrigation farming.

This one-eighth of our crop output comes from about one-sixteenth of the Nation's total harvested cropland. Thus, roughly, one acre of irrigated land is worth two acres of nonirrigated land. This comparison, of course, brings in the Nation's most productive nonirrigated land such as the Corn Belt and Mississippi Delta lands.

For the West alone the contrast between irrigated and nonirrigated acres is even more striking. In the 17 Western States, 12 percent of the harvested cropland is irrigated and these irrigated acres produce about 35 percent of the total crops (excluding nursery, forest, and pasture) of the West. Thus, in the West an acre of irrigated land approaches the equivalent of three acres of dry-farmed cropland.

Much has been said about the remarkable achievement of this country in expanding its agricultural production by one-third during the war years. It has been said that this expanded output has been accomplished by a virtual revolution on the farm largely through mechanization. These statements are true, but it has not always been pointed out that getting water on the land, in the right amount and at the right time, is necessary for abundant crop and pasture production; and that such irrigation is an important part of such technological progress.

How is irrigation playing its greater role in agriculture?

First, irrigation is being applied to more land at a rapid rate. During recent years, as pointed out in the previous article of this series, *Agricultural Situation, April issue*, a million acres a year have been added to our irrigated area. This, however, is not the whole story. Farmers are doing a better job in using water. Water supplies are being "firmed-up," *made more dependable* on many projects. More water has made full irrigation possible on more farms; also it has made possible late-season use of water where before none had been possible. A large part of the reclamation program of recent years has sought to add to existing water supplies—to provide plenty of water to land which had some but not enough.

Thus, more land under irrigation plus a greater supply for water-hungry farms have combined to expand farm output, particularly in the West. Also, in the humid half of the United States farmers are making more and more use of sprinkler-type irrigation. An increasing number of farmers are using sprinklers to tide them across dry spells. In the East also, this kind of irrigation may well be a principal means by which we meet the demands in the years ahead of a steadily increasing population. But irrigation in the East is a story all its own . . .

Enormous Factor in Some States

Virtually no arable cropping would be possible in some of our Western States without irrigation. In Nevada, Arizona, and Utah from 90 to nearly 100 percent of all crops are grown by irrigation. Four-fifths or better of the production of crops in California is produced on irrigated land. About three-fourths of the crop production of Idaho and Wyoming is by irrigation, two-thirds in New Mexico and Colorado and from one-third to two-fifths in

Oregon, Montana, and Washington. About 15 percent of the value of all crop production in Nebraska and Texas comes from irrigated cropland.

Our sugar beet crops are almost wholly irrigated. The rice crop, of course, requires flooding.

In the last 10 years, farmers have shifted their irrigated land toward crops with higher values per-acre. In 1939, three-fifths of the vegetables grown for sale in the 17 Western States were from irrigated land. Ten years later three-fourths of western vegetables came from irrigated land. A larger share of the bean crop is now grown by irrigation. Nearly 90 percent of the dry bean crop of the West came from irrigated land in 1949. Potato production on irrigated farms has increased more than on nonirrigated farms.

Farmers are growing more of their barley by irrigation. The dry-land barley crop went down from 1939 to 1949, while the irrigated crop nearly doubled. Of course, for wheat, irrigation is of minor importance. Wheat is the main dry-farm crop of the West. Only about 2 percent of the winter wheat crop in the 17 Western States is by irrigation. Ten percent of the spring wheat is grown on irrigated land. These proportions have remained about the same over the last 10 years.

Important With Cotton

Perhaps one of the most significant trends in the irrigation picture is the increase to irrigated cotton. In 1939, only about a fifth of the cotton produced in the 17 Western States came from irrigated acres. By 1949 nearly two-fifths of the cotton of the West was grown by irrigation. This *two-fifths* was raised on less than *one-fifth* of the land devoted to cotton production in these Western States.

While production of sorghum grains more than doubled in the West, that part produced by irrigation was increased by more than five times. The bulk of this increase took place with the expansion of *well* irrigation in the Texas High Plains. In 1939, Texas produced around 700,000 bushels of sorghum grain by irrigation, by 1949 the irrigation production had reached

nearly 17,000,000 bushels. A large part of the newly irrigated cotton also occurs in the Texas High Plains.

Helps the Individual Farmer

The data now being made available from the 1950 Census of Irrigation can be referred to for a more complete record of the increasing importance of irrigation in the Nation's farm output. However, these statistics only partially reveal the meaning of irrigation to the individual farmer.

Irrigation helps the farmer most importantly in that it enables him to produce crops not otherwise possible in the dry areas of the West. In other areas, it helps him most in the way of bigger yields of crops already grown.

But bigger yields per acre may be looked for in any case. In the 20 States where irrigation is most extensively practiced, that is, the 17 Western States plus Arkansas, Louisiana and Florida, farmers obtain a yield of over 3 tons of alfalfa per acre on the average as compared to one and three-fourths tons from dry land. Farmers in these 20 States who irrigated potatoes obtained an average of 300 bushels per acre; those who did not, got 160 bushels. Irrigated cotton yields averaged 1.2 bales per acre; dry-land cotton, only a half bale. Dryland spring wheat yields average 10 bushels as compared to 33 bushels when irrigated.

It should be noted that these are yields as reported to the census. The differences are not due entirely to the practice of irrigation. These differences are in part a result of varying levels in productive capacity of the soils. To some extent, also, they result from more effective use of fertilizer which is made possible when a crop is irrigated. It is significant to note, however, that the yields on irrigated land on the average in the West ranged from nearly 50 percent to four times larger than those on dry-farmed acres for the principal crops.

The farmer is further benefited by irrigation in that he is more sure of high production each year. By irrigation he has under control a chief climatic factor affecting agricultural production. However, it should be recognized that even with irrigation he is

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How Do Investments in Land Compare With Farm Income?

WITH farm land values now at or near an all-time peak, the question of how much capital is required to own and operate a successful farm is of wide concern. Young men who want to start farming often find the initial investment in farm real estate a serious obstacle, while credit agencies have the continuous problem of determining loan limits and evaluating mortgage risks.

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Data from the 1950 Census are utilized in this article to show the amount of investment in farm real estate associated with various levels of farm income in different parts of the country. It does not take into account the total farm investment because suitable data on investments required for farm machinery and equipment, livestock, and operating capital are not available. The value of farm products sold is used as a measure of gross income and is related to the investment in farm real estate. Net income would be preferable for such comparisons but this cannot be obtained readily from census data. Also, relationships between land values and farm income are somewhat different now than in 1950, but the comparisons shown here, among farms of different income levels and among regions, would probably be about the same now as in 1950.

In terms of national averages for 1950, about \$3,000 was invested in farm real estate for every \$1,000 taken in from the sale of farm products. See table. Some differences were apparent among regions, ranging from \$2,000 invested in farm real estate in the Northeast to \$3,500 in Texas-Oklahoma, but a more striking relationship is seen among farms of different levels of farm income. Generally speaking, the lower the level of gross sales, the larger the investment in real estate per \$1,000 of products sold. This may be explained partly by the larger proportion of the real estate investment in small farms that is represented by buildings, especially farm dwellings, which contribute relatively little to farm income.

Many of the low-income farms (those with gross sales of only \$250 to \$1,200 a year) are near urban centers and the values placed on them do not reflect

Real Estate Investment per \$1,000 Gross Income by Economic Class of Farm, 1950 Census

REGION ¹	INCOME CLASS OF FARMS ²						ALL FARMS
	\$25,000 AND OVER	\$10,000 TO \$24,999	\$5,000 TO \$9,999	\$2,500 TO \$4,999	\$1,200 TO \$2,499	\$250 TO \$1,199	
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
Northeast.....	1,064	1,638	2,051	2,891	5,130	10,007	1,979
Appalachian.....	1,490	2,341	2,668	2,813	3,551	6,046	2,900
Southeast.....	1,695	2,460	2,548	2,538	3,008	4,613	2,555
Lake States.....	1,300	2,300	2,660	3,145	4,243	7,391	2,743
Corn Belt.....	1,839	3,257	3,731	4,176	4,937	7,728	3,422
Delta States.....	2,351	2,573	2,757	2,452	2,510	4,163	2,690
Great Plains.....	1,810	3,124	3,836	4,653	5,970	10,337	3,495
Texas-Oklahoma.....	2,794	3,383	3,657	4,116	5,250	7,939	3,526
Mountain.....	2,032	3,159	3,805	4,752	7,069	13,782	3,053
Pacific.....	2,176	3,463	4,384	5,817	8,777	18,073	3,121
United States.....	1,988	2,920	3,323	3,675	4,340	6,512	3,066

¹ The States included in these regions are as follows: Northeast—Maine, N. H., Vt., Mass., R. I., Conn., N. Y., N. J., Pa.; Appalachian—Del., Md., Va., W. Va., N. C., Ky., and Tenn.; Southeast—S. C., Ga., Fla., Ala.; Lake States—Mich., Wis., Minn.; Corn Belt—Ohio, Ind., Ill., Iowa, Mo.; Delta States—Miss., Ark., La.; Great Plains—N. Dak., S. Dak., Nebr., Kans.; Mountain—Mont., Idaho, Wyo., Colo., N. Mex., Ariz., Utah, Nev.; Pacific—Wash., Oreg., Calif.

² The census classification of commercial farms is based largely on the total value of farm products sold.

strictly agricultural values. In this income range, it takes about \$6,500 in real estate to produce \$1,000 in sales. At the other extreme, for farms producing more than \$25,000 a year in gross sales, only \$2,000 in real estate was required to produce \$1,000 in gross income. Expressed another way, it would take about 2 years on the high-income farms for gross sales to equal the value of real estate, whereas on the low-income farms it would take 6½ years.

Even allowing for probable differences in expenses on the two classes of farms, a real estate mortgage could be paid off much sooner on the high-valued high-income farm than on the low-valued low-income farm.

Larger Investments for Crops Than for Livestock

Regional differences in the relationship between real estate investment and gross income reflect the relative contributions of land, labor, and operating capital to the typical farm business of the area. Except in the South, real estate investments are usually higher in relation to gross income in areas where field crops are the predominant source of income than in livestock areas where labor inputs are larger and more is invested in livestock. This can be illustrated by comparing the real estate investment and gross income in Texas-Oklahoma and the Northeast. In Texas-Oklahoma, farms producing more than \$25,000 in gross sales had an investment of \$146,000 in real estate and gross sales averaged \$52,000. This is a ratio of \$2,800 in real estate per \$1,000 sales. In the Northeast, only \$52,000 was invested in real estate and gross sales averaged \$48,500 . . . nearly as large as the investment. Of course, net income per farm in the Northeast would not be as large as in Texas-Oklahoma because of larger expenditures for feed, livestock, and labor. Even on a net basis, it is probable that investment in real estate per \$1,000 net income would be less in the Northeast than in the Great Plains States.

Similar relationships calculated for 10 major regions and for 6 different levels of gross sales show that real estate investments are larger in relation to sales in the Mountain and Pacific

Coast States than elsewhere. Real estate investment per farm is high in this area because of the large acreages of grazing lands required for range livestock operations, although per acre values are the lowest in the country. In the Pacific Coast States, many farms, and especially those in the higher income levels, are orchards where labor and operating capital has been incorporated into the value of the real estate. Real estate investment is smallest in relation to sales in the Southeast and Delta States, except for the three highest income classes of farms. The Northeast and Lake States show the lowest ratios of real estate investment to gross sales for farms having more than \$25,000 and from \$10,000 to \$25,000 in gross sales.

Although there was some tendency for the higher income farms in a given area to have "better" land, as reflected in higher values per acre, most of the higher real estate investment was due to larger acreages. Thus, the average size of farms producing \$25,000 or more of farm products was from 2 to 5 times the average for all farms in the area, whereas per acre values were only about a third higher. In the Great Plains, Texas-Oklahoma, Mountain and Pacific regions, per acre values for the farms having a high income were below the average for all farms in the respective regions, but acreage per farm was more than 5 times the average for all farms in these areas.

Farms in the lower income levels were only a third to a half as large as all farms in the area, and per acre values were 20 to 30 percent below the average for all farms except in the Mountain and Pacific Coast States.

Several basic principles with respect to capital requirements in agriculture are illustrated by the data used here.

First, real estate investment increases as farm income increases, but not in direct proportion. It takes less investment in real estate to produce \$1,000 in gross sales on farms with a high level of income than on the low-income farms. This has a direct bearing on debt-paying capacity and mortgage risk.

Second, some significant differences were found in the amounts of real estate investment associated with dif-

Outlook Highlights

. . . . May 1953

FARMERS' PRICES, on the average, are not expected to change very much from present levels during the remainder of 1953. Consumers' income reached a new high early this year. Consumer purchases also were at a record rate. According to surveys of buying plans, both consumers and businessmen here at home are expected to continue heavy purchases of goods through 1953. Demand from foreign countries is lower than a year ago and probably will continue about as it is now.

Government spending for all purposes, local, State and National, is likely to exceed last year. With easing of international tensions, reductions in defense outlays may occur at some future time, but this is not likely for this year. Even if a decline occurs this year, it could very well be offset by a further expansion in expenditures by State and local Governments . . . for highways, schools and other needed public improvements.

Information available so far points to about the same total farm output as last year, if growing conditions are average; though it is too early, of course, to predict accurately the size of most crops.

Livestock and Meat

Farmers have sold 20 to 25 percent more cattle since the first of the year than in the same period of 1952. The gain over a year earlier is expected to diminish but marketings will remain well above 1952 levels. Hog slaughter probably will continue 12 to 15 percent below 1952 the rest of this year.

Prices of fed cattle may not change much from present levels until fall when some

seasonal strength is expected. Prices for lower quality cattle probably will decline seasonally this summer and be somewhat lower than a year earlier in the autumn. Hog prices have been running about a fourth above a year ago. Following a seasonal decline this spring, prices probably will rise.

Poultry and Eggs

Strong demand and slightly smaller supplies have boosted egg prices this spring above a year ago. With feed prices lower, the egg-feed price ratio in the first 3 months of 1953 was 30 percent higher than in the same month of 1952. In the past, an increase in the ratio has been accompanied by a rise in the number of chickens raised for laying flock replacement. This is likely to occur again this year. On April 1, however, the number of chicks and young chickens on farms was 1 percent below a year earlier.

Dairy Products

The seasonal increase in milk production from now to the June peak is likely to be less pronounced than a year earlier. From December through March, the annual rate of milk production was 123 billion pounds, an average of 8 percent above a year earlier. As the season advances, the total flow of milk will tend to become closer to that of a year earlier; but with more milk cows on farms, production may continue higher than in 1952.

Feed

Less feed grains have been used so far in the 1952-53 marketing season than a year earlier. Stocks at the end of the season probably will be up about a fourth from the 20 million tons last October 1. Feed grain prices continue about a tenth below last spring. Corn has strengthened since February but remains below support levels. The 270 million bushels placed under loan and purchase agreement through mid-March was a near-record for the period.

Fruits and Vegetables

Florida oranges and grapefruit have been marketed more rapidly this year than in either 1951 or 1952. By the 4th of April, 15 percent more canned juice and 7 percent more frozen orange concentrate had been processed than in the same period of the 1951-52 season. In California, the Valencia crop is larger than a year ago.

Growers' intentions indicate larger acreages than last year for potatoes to be harvested in the summer and fall. Prices will continue considerably lower than in 1952.

Cotton

With the supply of foreign cotton up a tenth and prices lower than for United States cotton, United States exports

ferent levels of gross income in the various areas. More investment in real estate is required to yield a given level of sales in the Mountain and Pacific Coast States than elsewhere. Real estate investment per \$1,000 sales is lowest in the Northeast and Southeast.

Third, size of farm increases more rapidly than value per acre as farm income increases. The large investments in real estate associated with high levels of farm income are due more to larger acreages than to better land.

William H. Scofield
Bureau of Agricultural Economics

through February were less than half these of the same period last season. Total exports for the 1952-53 marketing year probably will be around 3½ million bales, 2 million less than last year. United States disappearance is expected to be around 9½ million bales. This, plus exports, brings total disappearance to 13 million, and would leave about 4.9 million bales in carry-over next August 1.

Wheat

Not much change in the wheat supply situation is likely in the coming year. The crop will be smaller than last year, according to current prospects. But the decline is likely to be slightly more than offset by the sharp increase in stocks carried into 1953-54. On April 15 the Secretary of Agriculture announced that the United States Department of Agriculture was starting preliminary work for possible acreage allotment and marketing quota programs for the 1954 crop. However, final decision

on whether marketing quotas must be proclaimed will not be made until more is known about the supply and prospective demand.

Wool

With world wool consumption trending upward, prices have risen, even though supplies this year are somewhat larger than last. Prices at Boston also are up from a year ago. The support price for the 1953 U. S. clip has been set at 53.1 cents, a little below that for the 1952 production. Prices for this year's clip are not likely to average much above the average of 53.3 cents per pound received in 1952.

Tobacco

Production of cigarettes this year probably will top last year's record of 435 billion. This will mean firm demand for Flue-cured, Burley and Maryland tobaccos. A stronger export demand than last year is expected.

Prices of Farm Products

[Estimates of average prices received by farmers at local farm markets based on reports to the Bureau of Agricultural Economics. A average of reports covering the United States weighted according to relative importance of district and State]

Commodity	Average		Apr. 15, 1952	Mar. 15, 1953	Apr. 15, 1953	Effective parity price Apr. 15, 1953 ¹	
	Base period price ¹	January 1947- December 1949					
Basic commodities:							
Cotton American upland (pound).....	cents	\$ 12.4	31.21	36.80	31.52	31.45	34.22
Wheat (bushel).....	dollars	4.884	2.14	2.18	2.10	2.08	2.44
Rice (cwt.).....	do	1.92	5.38	5.36	6.92	6.99	5.36
Corn (bushel).....	do	4.642	1.64	1.68	1.46	1.46	1.77
Peanuts (pound).....	cents	4.8	10.2	10.3	11.1	11.1	13.2
Designated nonbasic commodities:							
Potatoes (bushel).....	dollars	1.589	1.60	2.31	10 1.65	1.34	1.64
Butterfat in cream (pound).....	cents	26.7	71.2	73.6	66.6	65.4	74.5
All milk, wholesale (100 lb.) ²	dollars	1.68	4.42	4.61	4.41	4.12	4.69
Wool (pound).....	cents	21.0	46.0	51.3	52.4	53.4	58.6
Other nonbasic commodities:							
Barley (bushel).....	dollars	.488	1.37	1.31	1.32	1.30	1.36
Cottonseed (ton).....	do	25.90	71.60	60.80	63.60	63.10	72.30
Flaxseed (bushel).....	do	1.62	5.54	3.64	3.63	3.57	4.52
Oats (bushel).....	do	.317	.882	.871	.783	.763	.884
Rye (bushel).....	do	.606	1.82	1.65	1.58	1.49	1.69
Sorghum, grain (100 lb.).....	do	1.21	2.53	2.56	2.66	2.52	2.67
Soybeans (bushel).....	do	.996	2.84	2.72	2.81	2.81	2.78
Sweetpotatoes (bushel).....	do	.964	2.36	4.16	4.01	4.09	2.69
Beef cattle (100 lb.).....	do	10 7.84	20.20	10 27.70	17.80	17.30	21.00
All chickens (pound).....	cents	11.0	29.3	10 26.2	27.5	27.2	30.7
Eggs (dozen).....	do	21.8	45.6	35.2	44.7	45.5	47.4
Hogs (100 lb.).....	dollars	10 7.26	21.90	16.40	20.20	20.70	20.30
Lambs (100 lb.).....	do	8.19	21.90	10 26.60	20.30	20.80	22.90
Calves (100 lb.) ¹¹	do	10 8.39	22.60	10 30.70	20.60	19.60	23.40
Oranges, on tree (box).....	do	2.29	1.23	.92	1.40	1.34	3.28
Apples (bushel).....	do	.996	2.39	2.57	3.35	3.29	2.78
Hay, baled (ton).....	do	11.87	22.40	24.80	24.40	23.60	26.20

¹ Adjusted base period prices 1910-14, based on 120-month average January 1942-December 1951 unless otherwise noted.

² Parity prices are computed under the provisions of title III, subtitle A, section 301 (a) of the Agricultural Adjustment Act of 1938 as amended by the Agricultural Acts of 1948 and 1949.

³ 60-month average, August 1909-July 1914 for all cotton.

⁴ 60-month average, August 1909-July 1914.

⁵ Adjust base period price 1910-14 derived from 10-season average prices 1943-52.

⁶ Prices received by farmers are estimates for the month.

⁷ Preliminary.

⁸ 10-season average 1919-28.

⁹ Transitional parity, 80 percent of parity price computed under formula in use prior to Jan. 1, 1950.

¹⁰ Revised. ¹¹ Called "veal calves" in previous reports.

Economic Trends Affecting Agriculture

Year and month	Industrial production (1935-39=100) ¹	Total personal income payments (1935-39=100) ²	Average earnings of factory workers per worker (1910-14=100)	Wholesale prices of all commodities (1910-14=100) ³	Index numbers of prices paid by farmers (1910-14=100)			Index numbers of prices received by farmers (1910-14=100)			
					Commodities	Wage rates for hired farm labor ⁴	Commodities, interest, taxes and wage rates	Livestock and products			
								Dairy products	Poultry and eggs	Meat animals	All livestock
1910-14 average.....	58	-----	100	100	100	100	100	100	100	100	100
1925-29 average.....	96	-----	232	143	151	184	161	161	155	145	152
1935-39 average.....	100	100	199	118	124	121	125	119	108	117	115
1947-49 average.....	185	294	462	225	240	430	249	278	224	334	291
1950 average.....	200	330	516	232	246	425	255	247	181	340	278
1951 average.....	220	370	566	258	271	470	281	284	226	411	335
1952 average.....	219	358	⁵ 504	251	273	503	286	302	203	358	307
1952											
April.....	216	382	574	251	276	510	289	291	180	372	306
May.....	211	385	581	251	276	-----	289	281	175	394	313
June.....	204	388	585	250	273	-----	286	277	181	380	306
July.....	193	384	573	251	273	506	286	286	208	376	312
August.....	215	393	591	252	274	-----	287	295	225	372	316
September.....	228	399	611	251	271	-----	285	307	227	349	309
October.....	230	402	615	250	269	490	282	316	228	328	301
November.....	234	402	⁶ 617	249	268	-----	281	318	239	310	295
December.....	235	408	⁷ 629	246	267	-----	280	309	221	291	280
1953											
January.....	⁸ 236	409	⁹ 623	247	267	514	282	296	218	303	281
February.....	⁸ 240	409	622	246	264	-----	280	286	206	305	277
March.....	242	-----	-----	247	⁸ 265	-----	281	277	216	301	274
April.....	-----	-----	-----	-----	264	508	279	294	218	299	270

Year and month	Index numbers of prices received by farmers (1910-14=100)								All crops and live-stock	Parity ratio
	Crops									
	Food grains	Feed grains and hay	To-bacco	Cotton	Oil-bearing crops	Fruit	Truck crops	All crops		
1910-14 average	100	100	100	100	100	100		100	100	100
1925-29 average	141	118	169	150	135	146	145	143	148	92
1935-39 average	94	95	172	87	113	95	95	99	107	86
1947-49 average	246	223	384	262	319	195	214	246	270	108
1950 average	224	187	402	280	276	200	185	232	256	100
1951 average	243	220	436	335	339	193	239	264	302	107
1952 average	244	227	432	309	296	195	254	267	288	101
1952										
April	250	229	435	313	279	179	308	272	296	100
May	245	227	436	303	280	190	285	270	293	101
June	238	226	437	319	289	220	250	277	292	102
July	230	227	436	311	307	214	287	276	295	103
August	236	233	436	319	310	206	229	272	295	103
September	240	234	428	320	305	200	182	264	288	101
October	240	219	429	311	304	215	189	260	282	100
November	248	213	412	288	300	195	238	257	277	99
December	247	218	428	268	300	206	256	257	269	96
1953										
January	245	214	419	252	291	208	237	251	267	95
February	240	206	424	255	287	209	237	247	263	94
March	246	208	424	266	291	215	248	253	264	94
April	244	206	424	266	289	226	204	247	259	93

¹ Federal Reserve Board; represents output of mining and manufacturing; monthly data adjusted for seasonal variation.

² Computed from reports of the Department of Commerce; monthly data adjusted for seasonal variation.

³ Bureau of Labor Statistics.

⁴ Farm wage rates simple averages of quarterly data, seasonally adjusted. ⁵ Revised.

⁶ Ratio of index of prices received to index of prices paid, interest, taxes, and wage rates. This parity ratio will not necessarily be identical to a weighted average percent of parity for all farm products, largely because parity prices for some products are on a transitional basis.

Agricultural Uses of Federal Lands

(Continued from Page 8)

potential to 7.5 million acres. Much of this potential farm land, of course, was in military sites and other reservations where farming was not feasible.

Figures are not available to show specific uses and production output of that part of the Federal land used for farming. It is known, however, that a very large proportion of the farms are operated as livestock or general farms. This means that a great deal of the acreage in farms is not in crops at all, but is in meadow and pasture. Much of the farm land, of course, is that leased to farmers and "established" ranchers, scattered here and there, in or near the grazing areas. Thus, the importance of Federal land for grazing, rather than for crops, is further emphasized.

R. D. Davidson
Bureau of Agricultural Economics

Irrigation's Part In Farm Production

(Continued from Page 10)

still confronted with some climatic hazards. He still is faced with unseasonable freezing, with hail and wind storms and by floods.

Through irrigation, many farmers have been able to build up a sounder economic farm unit without increasing their acreage. They have been able to develop a better balanced system of farming. In many areas, they have integrated irrigation with dry farming and thus increased their total output and at the same time more evenly distributed their labor and machinery use throughout the year. A combination of irrigation farming and livestock feeding operations has been highly successful. See Oct. 1952 and Feb. 1953 issues of the *Agricultural Situation*.

Definite Costs Attached

These advantages of irrigation to the Nation and the farmer of course have not come about without considerable effort and expense. Larger and larger sums are being required by the Federal Government in the reclamation program of the Bureau of Recla-

mation. The farmer frequently must make heavy investments ranging into thousands of dollars for the development of well irrigation. Even under Federal projects the farmer must go to considerable expense in land leveling, drainage and ditching.

The annual cost of water to the farmer in 1949 as reported in the census ranged from about \$1 per acre in Nevada to \$15 per acre on the average in Arizona. Costs ranged from \$5 to \$10 per acre in New Mexico, Florida, Texas, Washington, Arkansas, Louisiana, and California. These per-acre costs are not the only costs to the farmer that tend to offset his advantage in increased yields. He normally has to make an investment in preparing his land for irrigation. The added cost of applying the water to his crops also must be considered. But despite these costs, the trend of recent years demonstrates conclusively the permanent place of irrigation in the agriculture of the Nation.

Elco L. Greenshields
Bureau of Agricultural Economics

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